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GENERAL NOTES.

Astronomy in the Carnegie Institution.—In *Science* for January 30th, President DANIEL C. GILMAN, of the Carnegie Institution, publishes a detailed account of the proceedings of the Institution during the first year of its existence. From this account we extract such information as is of especial interest to astronomers.

In order to determine what work should be entered upon by the Institution, an advisory committee was appointed in each of eighteen sciences; that for astronomy is made up of E. C. PICKERING (Harvard), LEWIS BOSS (Albany), GEORGE E. HALE (Yerkes Observatory), S. P. LANGLEY (Smithsonian Institution), and SIMON NEWCOMB. Some other names well known in astronomy are to be found among the other committees: ORMOND STONE (*Mathematics*), R. S. WOODWARD, and A. A. MICHELSON (*Physics*), T. C. CHAMBERLIN (*Geology*) and CLEVELAND ABBE (*Meteorology*).

At its meeting in November, 1902, the Board of Trustees made the following appropriations for research, aggregating \$185,200:—

Astronomy	\$21,000
Bibliography	15,000
Botany	11,700
Chemistry	3,000
Economics	15,000
Engineering	4,500
Exploration	5,000
Geology	12,000
Geophysics	8,500
History	5,000
Investigation of project for southern and solar observatory	5,000
Investigation of project for physical and geo- physical laboratories	5,000
Investigation of natural history projects	5,000
Marine biological research	12,500
Paleontology	1,900
Physics	4,000
Physiology	5,000
Psychology	1,600
Publications	5,500
Research assistants	25,000
Student research work in Washington	10,000
Zoölogy	4,000

It will be seen that the appropriation for astronomy is considerably in excess of that for any other science, even without the \$5,000 allotted to an investigation of the project for a southern observatory. The reason for this will be found in the avowed objects of the Institution, to favor those projects which seem to require immediate assistance, and to avoid coming into competition with other agencies for the promotion of research.

Some of the grants in astronomy are as follows: \$2,500 to Harvard Observatory, to assist in a more thorough study of the astronomical photographs that are being made at Cambridge and at Arequipa; \$4,000 to the Yerkes Observatory, for an investigation of stellar parallaxes by means of photography, investigations in stellar photometry, a study of several hundred photographs of the Sun taken at Kenwood Observatory in the years 1891 to 1896, and for certain other investigations in solar and stellar spectroscopy; \$4,000 to the Lick Observatory, to be expended in the employment of assistants and computers; \$1,000 to Vassar College Observatory, to make measurements and reductions of photographs of stars in the region of the north pole of the heavens. We regret that we cannot give a complete list of the separate grants in astronomy. The secretary of the Institution informs us that the trustees have decided to leave the announcement of grants to such of the grantees who may desire to make them.

Recent Meetings of Astronomical Societies.—This country now has two societies of professional astronomers: the Astronomical and Astrophysical Society of America, and Section A (*Mathematics and Astronomy*) of the American Association for the Advancement of Science. These societies are in no sense rivals, especially since the affiliation of the former with the American Association. The two now hold meetings at the same time in the same city, and the privileges of the meetings of each are extended to the members of the other. The meetings for this year were held at Washington during "convocation week," beginning Monday, December 29, 1902.

The Astronomical and Astrophysical Society elected the following set of officers for 1903:—

President—SIMON NEWCOMB.

First Vice-President—GEORGE E. HALE.

Second Vice-President—W. W. CAMPBELL.

Treasurer—C. L. DOOLITTLE.

Councilors—ORMOND STONE, W. S. EICHELBERGER.

Secretary—GEORGE C. COMSTOCK.

Besides Professor NEWCOMB'S address on "The Universe as an Organism," the following papers were read:—

H. JACOBY: Photographic Measures made with the *réseau* and without.

GEORGE E. HALE, FERDINAND ELLERMAN, and J. A. PARKHURST: The Spectra of Stars of SECCHI'S Fourth Type.

W. J. HUMPHREYS: Certain Matters Connected with Spectroscopic Methods.

E. B. FROST and W. S. ADAMS: (1) Radial Velocities of Twenty Stars having Spectra of the *Orion* Type. (2) New Spectroscopic Binaries. (3) The Wave-lengths of Rydberg's First Line of Hydrogen (λ 4686) and Others.

W. S. ADAMS: The Orbit of the Spectroscopic Binary η *Orionis*.

E. O. LOVETT: (1) Periodic Solutions of the Problem of Four Bodies. (2) On the Integrals of the Problem of n Bodies.

G. C. COMSTOCK: The Masses in 85 *Pegasi*.

F. W. VERY: Form and Structure of the Galaxy.

S. A. MITCHELL: Neon, Krypton, and Zenon in the Chromosphere.

G. C. COMSTOCK: Proper Motions of Faint Stars.

SARAH F. WHITING: Astronomical Laboratory Work.

F. W. VERY: Cause of the Nebulosity Around *Nova Persei*.

G. W. HOUGH: The Mounting of Fixed Meridian Instruments.

J. A. PARKHURST: Faint Variable Stars.

S. C. CHANDLER: The Value of the Aberration Constant.

C. L. DOOLITTLE: Constant of Aberration from Observations in 1901-1902.

E. F. NICHOLS and G. T. HULL: The Pressure of Light.

E. E. BARNARD: (1) Triangulation of Stars in Four Globular Clusters. (2) Observations of Variable Stars in Globular Clusters.

A. O. LEUSCHNER: (1) Short Method of Determining Orbits. (2) A Method of Computing Orbits in Rectangular Coördinates. (3) The Solution of the Orbit Irrespective of Parallax and Aberration. (4) The Orbit of Comet 1902 a.

G. H. PETERS: The Photoheliograph of the Naval Observatory.

SIMON NEWCOMB: Statement of the Progress made by the Watson Trustees in Computing Tables of the Watson Asteroids.

A. S. FLINT: Meridian Observations for Stellar Parallax.

L. A. BAUER: Magnetic Results during the Eruption in Martinique.

S. D. TOWNLEY: The Light of the Stars.

Abstracts of most of these papers may be found in *Science* for February 27, 1903; and President NEWCOMB'S address is printed in full in *Science* for January 23, 1903.

Section A of the American Association elected OTTO H. TITTMANN as Vice-President for the next meeting and L. G. WELD as Secretary. An address "On the Physical Constitution of the Planet *Jupiter*" was delivered by Professor G. W. HOUGH, and is printed in *Science* for January 16, 1903; in the same place may be found abstracts of the papers read before the meetings, the titles of which follow:—

O. H. TITTMANN: Deflections of the Vertical in Porto Rico.

L. G. WELD: SAINT LOUP'S Linkage.

S. P. LANGLEY: A Device to Prevent Personal Equation.

S. P. LANGLEY: The Solar Constant and Related Problems.

S. P. LANGLEY: Good Seeing.

PAUL CARUS: The Foundations of Mathematics.

F. H. BIGELOW: Structure in the Mass of the Sun.

P. LOWELL: Spectroscopic Proof of the Rotations of *Jupiter*, *Saturn*, and *Venus*.

G. B. HALSTED: The Teaching of Geometry.

E. O. LOVETT: Special Periodic Solutions of the Problem of n Bodies.

E. O. LOVETT: The Problems of Three or More Bodies with Prescribed Orbits.

ASAPH HALL: Secular Perturbations of the Planets.

G. B. HALSTED: The BOLYAI Centenary.

C. J. LING: Approach of Comet b 1902 to *Mercury*.

G. A. HILL: An Untried Method of Determining the Constant of Refraction.

J. T. QUINN: Development of Conic Sections by Kinematic Methods.

G. C. COMSTOCK: Time Determinations at Washburn Observatory.

C. S. HOWE: Determination of Time by Reversing on Each Star.

JAMES S. MILLER: Geometrical Analysis.

C. J. KEYSER: BOLZANO'S Contributions to Assemblage Theory.

C. W. FREDERICK: The Constants of the Equatorial.

LUIGI D' AURIA: A Relation between the Mean Speed of Stellar Motion and the Velocity of Wave Propagation in a Universal Gaseous Medium.

E. L. LARKIN: Condition of Seeing, etc., at Lowe Observatory.

The following grants have been made by the Rumford Committee of the American Academy of Arts and Sciences: To Dr. R. S. MINOR, \$250 for a research on the dispersion and absorption of ultra-violet radiations; to Dr. S. D. TOWNLEY, of Ukiah, Cal., \$100 for a stellar photometer; to Professor E. B. FROST, of the Yerkes Observatory, \$200 for a special lens to be used in connection with the Bruce spectrograph in the study of velocities in the line of sight; to Professors E. F. NICHOLS and G. F. HULL, of Dartmouth College, \$250 for a research on the relative motion of earth and ether; to Professor GEORGE E. HALE, of the Yerkes Observatory, \$300 for a Rowland grating to be used in studying the spectra of the brightest stars.

During the illness of Professor JOHN K. REES, who has taken a leave of absence until next fall, Professor HAROLD JACOBY is in charge of the Astronomical department at Columbia University. Dr. CHARLES L. POOR, formerly associate professor of astronomy at the Johns Hopkins University, has been appointed lecturer in astronomy at Columbia University. Dr. SIDNEY D. TOWNLEY, of the University of California, has been appointed observer at the International Latitude Station at Ukiah. Doctor TOWNLEY will take charge of the station on May 1st; from February 1st until this later date the time will

be spent in alternate observing by Doctor TOWNLEY and the present observer for the purpose of determining whether a change of observers will have any apparent effect upon the latitude. The vacancy caused by Doctor TOWNLEY's resignation from the Berkeley Astronomical Department of the University of California has been filled by the appointment of Doctor RUSSELL TRACY CRAWFORD, examiner to the U. S. Civil Service Commission.

Doctor CHARLES DUFOUR, professor of astronomy at Lausanne, Switzerland, is dead. On January 16th, died Professor E. A. FUERTES, Director of the A. C. Barnes Astronomical Observatory at Cornell University. Professor FUERTES was born in Porto Rico in 1838; he was much more prominent in engineering than in astronomy. Professor WILLIAM HARKNESS, late Director of the Nautical Almanac, and one of the most prominent of American astronomers, died on February 28th; we hope to give later a sketch of his career.

For the following accounts of Sir G. G. STOKES and of JAMES GLAISHER, who died recently in England, we are indebted to Mr. ANDREW GREIG, of Dundee, Scotland:—

"Sir GEORGE GABRIEL STOKES, of Cambridge, England, died 1st February, 1903. It was in 1841 that he took his degree as Senior Wrangler. In 1849 he was elected to fill the chair of Lucasian Professor of Mathematics at Cambridge—once occupied by NEWTON; and three years after became a Fellow of the Royal Society, and from 1885 to 1890 he acted as President of that distinguished body. No occupant of NEWTON's office so closely resembled the great master. In the quality and direction of their studies, in the perfection of their analysis, and in the devout reverence for the cause of causes in Nature, they were men of the same order. STOKES's favorite study was the science of light. It was said of him that 'if you give STOKES three-quarters of an hour of sunlight, there is no experiment in optics that he cannot perform for you.' He received two medals from the Royal Society; held honorary degrees of several universities; and was President of the British Association in 1869.

"Sir GABRIEL STOKES was one of the foremost mathematicians of his time. Among scientific men of his generation he

stood very high. Lord KELVIN once called him 'the teacher and guide of his contemporaries,' and the esteem in which he was held in the world of learning was abundantly illustrated on the occasion of his jubilee as Lucasian Professor in 1899, when the principal Universities of the Old and New World sent their most distinguished savants to do honor to the event. His researches into optics and the spectrum analysis, his investigation into the variation of gravity over the Earth's surface, and his enunciation of the laws of fluorescence, placed him in the front rank of nineteenth century scientists. His papers on these and many other subjects are pronounced to be 'perfect in form and unassailable in accuracy.' He died at the ripe old age of 83."

"At the ripe age of 93 there has just died Mr. JAMES GLAISHER, F.R.S., for many years Superintendent of the Magnetical and Meteorological Department of the Royal Observatory, Greenwich, and a scientist of no mean attainments. His special study was meteorology, and in the pursuit of his investigations he made the famous seven-mile balloon ascent with the late Mr. HENRY COXWELL, when both aeronauts narrowly escaped with their lives. Mr. GLAISHER was born in London in April, 1809, and was barely 20 years old when he received an appointment in connection with the Ordnance Survey of Ireland. He made close observations respecting the formation and the colors of clouds, subsequently publishing a book on the subject. In 1833 he became an assistant at Cambridge Observatory, and three years later assistant in the Astronomical Department of the Royal Observatory at Greenwich, while in 1840 he was appointed superintendent of the newly formed Magnetic and Meteorological Department at Greenwich. That post he continued to hold until his retirement from the public service 34 years later. Among other things he did in this position was to begin, in 1841, the publication of those quarterly and annual reports on meteorology which have been regularly issued by the Registrar-General ever since. Mr. GLAISHER wrote more than 100 books and papers on astronomy, meteorology, and the theory of numbers."

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS,
HELD IN THE ROOMS OF THE SOCIETY,
MARCH 28, 1903, AT 7:30 P.M.

President PERRINE presided. A quorum was present. The minutes of the last meeting were read and approved. The following members were duly elected:—

LIST OF MEMBERS ELECTED MARCH 28, 1903.

Mr. GEO. A. BATCHELDER	Menlo Park, Cal.
Mr. H. C. CHESBROUGH	300 California St., S. F., Cal.
Dr. RUSSEL TRACY CRAWFORD	{ Students' Observatory, Berkeley, Cal.
Mr. RALPH CURTISS	{ Lick Observatory, Mt Hamilton, Cal.
Mr. E. A. DENICKE	1000 Mason St., S. F., Cal.
Mr. R. H. E. ESPEY	{ Room 4, 4th floor Mills Building, S. F., Cal.
Dr. A. F. GILLIHAN	{ Students' Observatory, Berkeley, Cal.
Mr. H. T. S. GREEN	{ London, Paris & American Bank, S. F., Cal.
R. WALDO HARRISON	165 Clinton Ave., Jersey City, N. J.
Mr. GARRETT W. MCENERNEY	Nevada Block, S. F., Cal.
Mr. JAMES D. PHELAN	Phelan Building, S. F., Cal.
Mrs. E. T. SCHILD	1908 Broadway, S. F., Cal.
Dr. M. SCHIRMAN	{ Rooms 426-427, Emma Spreckels' Building, S. F., Cal.
Mr. S. E. SLADE	6 California St., S. F., Cal.
Mr. A. B. SPRECKELS*	327 Market St., S. F., Cal.
Mr. JOEL STEBBINS	{ Lick Observatory, Mt. Hamilton, Cal.
Mr. F. W. VAN SICKLEN	1831 Central Ave., Alameda, Cal.
Mr. J. H. G. WOLF	92 Flood Building, S. F., Cal.

REPORT OF THE LIBRARY COMMITTEE.

The Library Committee presented its report, as follows, and the report was accepted and filed:—

SAN FRANCISCO, Cal., March 28, 1903.

To the Board of Directors of the Astronomical Society of the Pacific:—

We, the undersigned Committee of the Society's Library, report as follows:—

Since the last written report, two years ago, several changes have been made in the Library; a set of shelves and a chest of drawers have been added to the equipment, the books and pamphlets have been rearranged, many incomplete volumes and sets completed, the accessions book and the card catalogue checked up, and a good start made toward the preparation of the catalogue authorized by the Board of Directors at the meeting of November 30, 1902.

By binding, purchase, and gift the number of volumes in the accessions book has been increased in the last two years from 1,144 to 1,258. There are also about forty volumes at the bindery, which makes a total of 1,300 bound volumes in the Society's Library.

The expenditures from the Alexander Montgomery Library Fund may be found in the Treasurer's report.

*Signifies life membership.

The Committee wishes to express its indebtedness to Miss ADELAIDE HOBE, a member of the Society, who kindly spent several days during the Christmas holidays aiding the Committee in rearranging the books and in checking up the accessions book and the card catalogue.

Respectfully submitted,

SIDNEY D. TOWNLEY, *Librarian.*

ROSE O'HALLORAN.

The following resolutions were adopted:—

Resolved, That the sum of \$5,000, constituting the bequest to the Society by the late Mr. JOHN DOLBEER be transferred from the General Fund to a separate fund, to be known as the JOHN DOLBEER FUND of the Astronomical Society of the Pacific.

It was, upon motion by the Treasurer,

Resolved, That the funds of the Society, with the exception of the General Fund, be placed under the immediate care of the Finance Committee, and that moneys belonging to such funds shall be withdrawn only upon orders or receipts signed by at least a majority of the members of said Finance Committee, and that a copy of this resolution, duly certified by the President and Secretary, be delivered to the banks holding such deposits.

It was, upon motion by Mr. CUSHING,

Resolved, That the Finance Committee be empowered to invest the funds of the Society, upon the consent of the President, in such first-class bonds as they may deem advisable.

Resolved, That the dates of issue of the *Publications* be changed from the 1st to the 10th of the months of February, April, June, August, October, and December.

AMENDMENT TO THE BY-LAWS.

The following amendment to the By-Laws was duly adopted by the consenting votes of nine Directors, namely:—

MESSRS PERRINE, LEUSCHNER, CUSHING, BABCOCK, AITKEN, CAMPBELL, PIERSON, MOLERA, ZIEL.

ARTICLE IX.

The annual meeting of this Society shall be held on the last Saturday in March, at 8 o'clock P. M., at the rooms of the Society in San Francisco; and meetings shall be held for the ordinary transactions and purposes of the Society, as follows:—

Meetings shall be held in the Library of the Lick Observatory, Mount Hamilton, at a suitable hour on the last Saturdays of June and August; and meetings shall be held in the rooms of the Society, in San Francisco, at 8 o'clock P. M., on the last Saturdays of January, March, and November.

A special meeting may be called by the President, or, in his absence or disability, by one of the Vice-Presidents, or, in the absence or disability of the President and the Vice-Presidents, by the Secretary, on the written requisition of ten active or life members; and the object of such meeting shall be stated in the notice by which it is called.

The annual election shall be held on the day of the annual meeting, between the hours of 8:15 and 9 P. M.

No member shall be permitted to vote at any meeting of the Society who has not paid all his dues for past and current years. There shall be no voting by proxy.

Adjourned.

MINUTES OF THE FIFTEENTH ANNUAL MEETING OF THE
 ASTRONOMICAL SOCIETY OF THE PACIFIC, HELD IN
 THE LECTURE HALL OF THE CALIFORNIA
 ACADEMY OF SCIENCES, MARCH 28,
 1903, AT 8 P. M.

The meeting was called to order by President PERRINE. A quorum was present. The minutes of the last meeting were approved. The Secretary read the names of new members duly elected at the Directors' meeting.

The following papers were presented:—

1. Address of the retiring President of the Society, by C. D. PERRINE.
2. Reports of Committees; on Nominations; on the Comet Medal; on the Library; on Auditing; and Annual Report of the Treasurer.
3. The D. O. Mills Expedition to Chile, by W. W. CAMPBELL.
4. Astronomical Observations at Odder, Denmark, in 1902, by TORVALD KÖHL.
5. The Parallax of *Delta Equulei*, by W. J. HUSSEY.
6. Observations of Variable Stars, by Miss ROSE O'HALLORAN.
7. The Orbit of *Epsilon Hydræ*, AB., by R. G. AITKEN.
8. Planetary Phenomena for May and June, 1903, by MALCOLM MCNEILL.

The Committee on Nominations reported a list of names proposed for election as Directors, as follows: MESSRS. R. G. AITKEN, CHAS. BURCKHALTER, W. W. CAMPBELL, WM. H. CROCKER, CHAS. S. CUSHING, O. VON GELDERN, A. O. LEUSCHNER, E. J. MOLERA, WM. M. PIERSON, S. D. TOWNLEY, F. R. ZIEL.

For Committee on Publication: MESSRS. R. G. AITKEN (Chairman), FRANK SCHLESINGER, S. D. TOWNLEY.

MESSRS. BABCOCK and VON GELDERN were appointed as tellers. The polls were open from 8:15 to 9 P. M., and the persons above named were duly elected to serve for the ensuing year.

REPORT OF THE COMMITTEE ON THE DONOHUE COMET-MEDAL.

Submitted March 28, 1903.

This report relates to the Calendar year 1902. The Comets of 1902 have been:—

Comet *a* (unexpected comet) discovered by W. R. BROOKS at Geneva, N. Y., on April 14th.

Comet *b* (unexpected comet) discovered by C. D. PERRINE at the Lick Observatory on September 1st.

Comet *c* (unexpected comet) reported by JOHN GRIGG of Thames, New Zealand, as having been seen by him first on July 23d. This comet appears to have escaped detection by other observers.

Comet *d* (unexpected comet) discovered by M. GIACOBINI at Nice on December 2d.

In accordance with the statutes, Donohue Comet-Medals have been awarded to the discoverers of Comets *a*, *b*, and *d*.

W. W. CAMPBELL,
 CHAS. BURCKHALTER,
 WM. M. PIERSON,

Committee on the Donohue Comet-Medal.

The Treasurer submitted his Annual Report as follows:—

ANNUAL STATEMENT OF THE RECEIPTS AND EXPENDITURES OF THE
ASTRONOMICAL SOCIETY OF THE PACIFIC FOR THE
FISCAL YEAR ENDING MARCH 28, 1903.

GENERAL FUND.

Receipts. (March 30, 1902, to December 31, 1902.)

1902, March 30th. Cash Balance		\$77 27
Received from dues for 1892 and previous years	\$206 62	
" " " " 1903	40 00	
" " Life membership fee	50 00	\$296 62
" " sale of publications	72 58	
" " stationery	1 00	
" " Bruce Medal Fund (loan of March 8, 1900, returned)	81 62	
" " Contribution by Mr. WM. ALVORD	100 00	
" " " " " WM. M. PIERSON	475 00	
	\$1,026 82	
Less transfer to Life Membership Fund	50 00	976 82
		\$1,054 09

Expenditures. (March 30, 1902, to December 31, 1902.)

For Publications: printing Vol. XIV.	\$566 15	
illustrations	16 45	\$582 60
Stationery and printing	81 30	
Postages	56 41	
Rent	135 00	
Salary Secretary-Treasurer	135 00	
Expressages	8 85	
Telephone	50	
Janitor	4 00	
Gas	3 90	
Insurance premiums	22 75	
Carpenter and locksmith	1 00	
Lecturer's traveling expenses	12 50	
Lantern at lecture	8 00	1,051 81
1902, December 31st. Cash Balance		\$2 28

Receipts. (January 1 to March 28, 1903.)

Received from dues for 1903	\$552 02	
" " " " previous years	90 00	\$642 02
" " Security Savings Bank (interest)	17	
" " Life Membership Fund (interest)	53 76	
Bequest received from Estate of JOHN DOLBEER	5,000 00	5,695 95
		\$5,698 23

Expenditures. (January 1 to March 28, 1903.)

For Publications: printing No. 88 of Vol. XV	\$126 55	
Stationery and printing	54 00	
Postages	10 60	
Rent	45 00	
Salary Secretary-Treasurer	45 00	
Expressages	25	
Janitor	1 00	
Gas	1 00	
Bank exchanges	15	283 55
1903, March 28th. Cash Balance		\$5,414 68

Publications of the

LIFE MEMBERSHIP FUND.

1902, March 30th. Cash Balance	\$1,653 95
Received from General Fund	50 00
Interest for 1902	53 76
	<hr/>
	\$1,757 71
Less transfer to General Fund (interest)	53 76
	<hr/>
1903, March 28th. Cash Balance	\$1,703 95
	<hr/>

DONOHUE COMET-MEDAL FUND.

1902, March 30th. Cash Balance	\$685 47
Interest for 1902	22 11
	<hr/>
	\$707 58
Less engraving medals Nos. 41 and 42	2 00
	<hr/>
1903, March 28th. Cash Balance	\$705 58
	<hr/>

BRUCE MEDAL FUND.

1902, March 30th. Cash Balance	\$2,554 07
Interest for 1902	76 84
	<hr/>
	\$2,630 91
Less remittance to A. DUBOIS, balance of fourth award	\$ 50
" advance of March 8, 1900, returned to General Fund	81 62 82 12
	<hr/>
1903, March 28th. Cash Balance	\$2,548 79
	<hr/>

ALEXANDER MONTGOMERY LIBRARY FUND.

1902, March 30th. Cash Balance	\$1,559 39
Interest for 1902	49 26
	<hr/>
	\$1,608 65

Less expenditures:

Mueller: Photometrie der Gestirne,	} \$10 62
Scheiner: Photographie der Gestirne,		
Byrd: Laboratory Manual in Astronomy,		
Comstock: Method of Least Squares,		
Doolittle: Treatise on Practical Astronomy,		
Morton: Heroes of Science,	} 17 90
Dreyer: Tycho Brahe,		
Lodge: Pioneers of Science,		
Comstock: Textbook of Astronomy,		
Howe: Elements of Descriptive Astronomy,		
Todd: New Astronomy,		
Richards: Navigation and Nautical Astronomy,		
Newcomb: The Stars,		
Jacoby: Practical Talks by an Astronomer,		
Moulton: Celestial Mechanics,		
Brickerton: Romance of the Earth,	} 4 75
" " " " Heavens,		
Valentiner: Handwoerterbuch der Astronomie (4 vols.)		23 34
Hicks-Judd Co., binding		29 40
<i>Astronomical Journal</i> , Vol. 23		5 00
<i>Popular Astronomy</i> , Vol. 11		2 50 93 51
		<hr/>
1903, March 28th. Cash Balance		\$1,515 14
		<hr/>

FUNDS.

Balances on Deposit as follows:

General Fund:

with Donohoe-Kelly Banking Co	\$ 414 68	
“ Union Trust Co.	2,500 00	
“ Mutual Savings Bank	2,500 00	\$5,414 68

Life Membership Fund:

with San Francisco Savings Union	\$653 95	
“ German Savings and Loan Society	450 00	
“ Hibernia Savings and Loan Society	600 00	\$1,703 95

Donohoe Comet-Medal Fund:

with San Francisco Savings Union	\$221 45	
“ German Savings and Loan Society	237 68	
“ Hibernia Savings and Loan Society	246 45	\$705 58

Alexander Montgomery Library Fund:

with San Francisco Savings Union	\$439 84	
“ German Savings and Loan Society	424 48	
“ Hibernia Savings and Loan Society	650 82	\$1,515 14

Bruce Medal Fund:

with San Francisco Savings Union	\$1,268 83	
“ Security Savings Bank	638 37	
“ German Savings and Loan Society	641 59	\$2,548 79

\$11,888 14

SAN FRANCISCO, March 28, 1903.

F. R. ZIEL, *Treasurer.*

Examined and found correct.

CHAS. S. CUSHING, {
L. H. PIERSON, { *Auditing Committee.*

The report was, on motion, accepted and filed.

The Committee appointed to audit the Treasurer's accounts reported as follows, and the report was, on motion, accepted and adopted:—

SAN FRANCISCO, CAL., March 28, 1903.

To the President and Members of the Astronomical Society of the Pacific:

GENTLEMEN—Your committee appointed to audit the accounts of the Treasurer for the fiscal year ending March 28, 1903, has, after a careful examination, found the same to be correct.

Respectfully submitted,

CHAS. S. CUSHING, {
L. H. PIERSON, { *Committee.*

The President then read his annual address.

Professor LEUSCHNER read Professor HUSSEY's paper on the Parallax of *Delta Equulei*; and Mr. BABCOCK read Professor CAMPBELL's paper on the D. O. Mills Expedition to Chile. President PERRINE then replied to questions put by members of the Society.

The following resolution was, on motion, adopted:—

Resolved, That all the acts appearing in the minutes of the meetings of the Board of Directors of this Society, as having been done by said Board during the past fiscal year, are here now, by this Society, approved and confirmed.

Adjourned.

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS,
HELD IN THE ROOMS OF THE SOCIETY,
MARCH 28, 1903, AT 9:30 P.M.

The new Board of Directors was called to order by Mr. BURCKHALTER. A quorum was present. The minutes of the last meeting were approved.

The business in hand being the election of officers and committees for the ensuing year, the following officers and committees, having received a majority of the votes cast, were duly elected:—

President: Mr. VON GELDERN.

First Vice-President: Mr. S. D. TOWNLEY.

Second Vice-President: Mr. W. W. CAMPBELL.

Third Vice-President: Mr. CHAS. S. CUSHING.

Secretaries: Messrs. R. G. AITKEN and F. R. ZIEL.

Treasurer: Mr. F. R. ZIEL.

Committee on the Comet-Medal: Messrs. CAMPBELL (*ex-officio*), PIERSON, and BURCKHALTER. ●

Library Committee: Messrs. TOWNLEY, RICHARDSON, Miss O'HALLORAN. Mr. TOWNLEY was appointed Librarian.

Finance Committee: Messrs. PIERSON, CUSHING, LEUSCHNER.

The Committee on Publication is composed of: Messrs. R. G. AITKEN (*Chairman*), FRANK SCHLESINGER, S. D. TOWNLEY.

The Board of Directors is composed of: Messrs. AITKEN, BURCKHALTER, CAMPBELL, CROCKER, CUSHING, VON GELDERN, LEUSCHNER, MOLERA, PIERSON, TOWNLEY, and ZIEL.

Adjourned.